

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)

HAWAIIAN ELECTRIC COMPANY, INC.)

DOCKET NO. 03-0157

For Approval to Commit Funds in)
Excess of \$500,000 for Item)
P0000750, the Kahe Unit 5 Reheater)
Element Replacements; and for)
Waiver of Paragraph 2.3(g)(2) of)
General Order No. 7.)

DECISION AND ORDER NO. 20462

Filed Sept. 24, 2003
At 9:00 o'clock A.M.

Karen Higashi
Chief Clerk of the Commission

DIV. OF CONSUMER ADVOCACY
DEPT. OF COMMERCE AND
CONSUMER AFFAIRS
STATE OF HAWAII

2003 SEP 25 P 3:41

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ATTEST: A True Copy
KAREN HIGASHI
Chief Clerk, Public Utilities
Commission, State of Hawaii.

K. Higashi

In the Matter of the Application of)
HAWAIIAN ELECTRIC COMPANY, INC.)
For Approval to Commit Funds in)
Excess of \$500,000 for Item)
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Pursuant to Order No. 20238, filed on June 18, 2003, the commission granted HECO's request for a waiver of the G.O. No. 7, section 2.3.g.2 requirement to file its application at least 60 days prior to the commencement of construction or commitment for the expenditure of funds.

Pursuant to Order No. 20394, filed on August 26, 2003, the commission granted HECO's request, filed on August 21, 2003, for an extension of the section 2.3.g.2 requirement, from August 28, 2003, to September 26, 2003.

On July 23, 2003, the Consumer Advocate issued information requests ("IRs") to HECO, to which HECO responded on August 27, 2003. On September 4, 2003, HECO provided responses to IRs that were transmitted by the Consumer Advocate via e-mail to HECO on September 2, 2003. On September 10, 2003, HECO provided responses to IRs that were submitted to it by the Consumer Advocate on September 5, 2003 via the telephone. On September 17, 2003, HECO provided responses to IRs that were submitted to it on September 16, 2003 by the Consumer Advocate via the telephone.

On September 18, 2003, the Consumer Advocate filed its statement of position ("SOP") in which it states that it will not object to the commission's approval of the instant application.

II.

A.

Kahe 5 is a nominal 142 megawatts, base loaded, reheat steam-generating unit originally placed into service in December 1974. The Proposed Project involves replacing all 53 elements of the Kahe 5 generator.

Since June 1990, Kahe 5 has experienced ten tube failures in five separate incidents. Each case of tube failure resulted in

a unit forced outage to repair the failed tube or tubes.¹ In each of the incidents, the failure was found to be due to oil ash corrosion on the exterior of the tubes. This occurs when oil ash deposits become molten on the exterior of the tubes at temperatures in excess of 1,100 degrees Fahrenheit. The oil ash attacks the metal causing the tube wall to waste away and eventually fail. Over time, the presence of oxide scale on the inside of the tubes accumulates, becoming excessively thick, restricting the flow of steam through the tubes, which then results in diminished heat transfer from the tubes to the steam. The Proposed Project would replace the 53 elements with tube materials more resistant to this formation of oil ash corrosion.

HECO proposes to install the new reheater elements during Kahe 5's next unit overhaul, scheduled to start on or about January 5, 2004. From the time of order, production and delivery of the elements is expected to take at least 25 weeks. The installation of the new reheater elements will take approximately 12 weeks. HECO asserts that the tubes are severely deteriorated and require replacement during the unit's next overhaul.

HECO considered the options of doing nothing, and reacting to tube failures as they occur, or replacing only those tubes deemed to be at greatest risk for failure. HECO determined that the option of doing nothing would not be economically and

¹Superheated steam enters the tubes through the Reheater Inlet Header, going through the single reheater, and leaving through the Reheater Outlet Header. The five tube circuits connected to the Reheater inlet and Outlet Headers comprise one "element". There are 53 elements.

operationally prudent. HECO thus proceeded with a partial replacement of the tubes by the then scheduled March 2003 overhaul date.² Overhaul of the Kahe 5 was subsequently rescheduled to January 2004, due to unforeseen problems with several of HECO's other units. Consequently, because the new overhaul date of January 2004 allows HECO sufficient lead-time for ordering all 53 of the elements, HECO submitted the instant application, asserting that replacing all of the elements at this time is the best way to ensure unit reliability.

B.

The Consumer Advocate does not object to commission approval of HECO's commitment of funds for the Proposed Project. On balance, the Consumer Advocate supports HECO's decision to replace the entire reheat superheat tube section. It has determined that all of the Kahe 5 existing reheater elements except for one meet the general industry standard for replacement. Furthermore, considering the fact that Kahe 5 is one of HECO's largest base load units, the Consumer Advocate believes it is reasonable to take steps now to assure the reliability of Kahe 5, rather than assume the risk of a tube failure and possible unscheduled outage. In addition, while the Consumer Advocate has some concerns relating to HECO's projections costs for the Proposed Project, it acknowledges that any concerns it has may be pursued after reviewing the final cost report that will be submitted by

²HECO states that replacing the 20 elements with the greatest risk for failure would cost less than \$500,000, thus not requiring commission approval pursuant to G.O. No. 7.

HECO when the project is completed, when the Consumer Advocate will be able to review the actual project costs. Thus, the Consumer Advocate does not object to commission approval of the Proposed Project.

III.

Upon a careful review of HECO's application, including its responses to the Consumer Advocate's IRs, and the Consumer Advocate's SOP, we find the Proposed Project to be reasonable and in the public interest. A September 2002 investigation of Kahe 5 showed the reheater tubes to be severely deteriorated, and requiring replacement. Additionally, it is also believed that over time, the risk of tube failure will increase, as the tubes age. Replacing all of the reheater tube elements with materials more resistant to corrosion is the best alternative to ensuring unit reliability. Replacement of all 53 tubes at this time appears to be a reasonable decision on HECO's part. Thus, we conclude that HECO's application to commit funds for the Proposed Project should be approved.

IV.

THE COMMISSION ORDERS:

1. HECO's application, filed on May 30, 2003, to commit \$1,176,419 for Item P0000750, the Kahe Unit No. 5 Reheater Element Replacements project, in accordance with section 2.3.g.2 of G.O. No. 7, is approved; provided that no part of the cost of the Proposed Project may be included in HECO's rate base unless and

until the Proposed Project has been completed, and the Proposed Project is used and useful for utility purposes.


2. HECO shall submit a report within 60 days of the completion of the Proposed Project, with an explanation of any deviation of 10 per cent or more in the Proposed Project's cost from that estimated in the application. Failure to submit the report, as requested by this decision and order, will constitute cause to limit the cost of the project, for ratemaking purposes, to that estimated in the application.

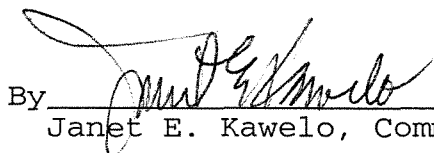
DONE at Honolulu, Hawaii this 24th day of September, 2003.


PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By (EXCUSED)
Carlito P. Caliboso, Chairman

APPROVED AS TO FORM:

By 
Wayne H. Kimura, Commissioner

By 
Janet E. Kawelo, Commissioner

for 
Benedyne S. Stone
Commission Counsel

03-0157.sl


CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 20462 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

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Karen Higashi

DATED: September 24, 2003